

General Specifications

Saturn® 20 Gas Turbine

- Industrial, Two-Shaft
- Axial Compressor
 - 8-Stage
 - Pressure Ratio: 6.7:1
 - Inlet Airflow: 6.4 kg/sec (14.2 lb/sec)
- Combustion Chamber
 - Annular-Type
 - 12 Fuel Injectors
 - Torch Ignitor System
- Gas Producer Turbine
 - 2-Stage, Reaction
 - Max. Speed: 15,000 rpm
- Power Turbine
 - 1-Stage, Reaction
 - Max. Speed: 22,300 rpm
- Bearings
 - Journal: Multi-Ramp Sleeve
 - Thrust: Fixed Tapered Land
- Coatings
 - Compressor: Inorganic Aluminum
 - Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
- Velocity Vibration Transducer

Key Packages Features

- Base Frame with Drip Pans
- Compressor
 - Compressor Auxiliary Systems
- 316L Stainless Steel Piping ≤ 4 " dia
- Compression-Type Tube Fittings
- Digital Gauge Panel
 - Fluid Gauges
 - Electrical System Options
 - NEC, Class I, Group D, Div. 1
 - CENELEC, Zone 1
- Turbotronic™ Microprocessor Control System
 - Freestanding Control Console
 - Color Video Display
 - Vibration Monitoring
- Control Options
 - 24-VDC Control Battery/Charger System
 - Turbine and Package Temperature Monitoring
 - Serial Link Supervisory Interface
 - Turbine Performance Map
 - Compressor Performance Map
 - Historical Displays
 - Printer/Logger
 - Process Controls
 - Compressor Anti-Surge Control
 - Field Programming
- Start Systems
 - Pneumatic
 - Direct-Drive AC
- Fuel System
 - Natural Gas
- Integrated Lube Oil System
 - Turbine-Driven Accessories
 - Tank Vent Separator
 - Flame Trap
- Oil System Options
 - Oil Cooler
 - Oil Heater
- Axial Compressor Cleaning Systems
 - On-Crank/On-Line
 - Cleaning Tank
- Gearbox (if applicable)
 - Speed Increaser
 - Speed Decreaser
- Air Inlet and Exhaust System Options
- Enclosure and Associated Options
- Factory Testing of Turbine and Package
- Documentation
 - Drawings
 - Quality Control Data Book
 - Inspection and Test Plan
 - Test Reports
 - Operation and Maintenance Manuals

Performance

Output Power	1185 kW (1590 hp)
Heat Rate	14 670 kJ/kW-hr (10,370 Btu/hp-hr)
Exhaust Flow	23 410 kg/hr (51,615 lb/hr)
Exhaust Temp.	520°C (970°F)

Nominal Rating – per ISO
At 15°C (59°F), at sea level

No inlet/exhaust losses

Relative humidity 60%

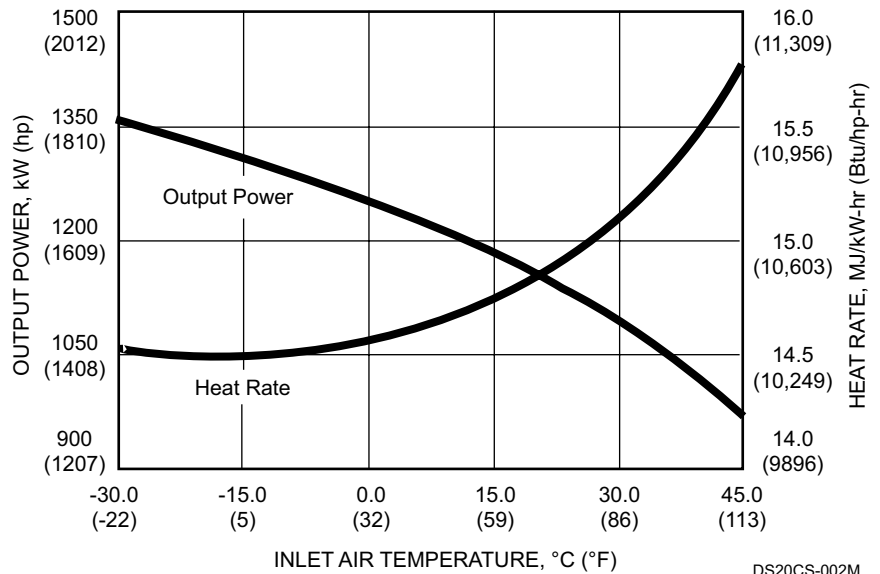
Natural gas fuel with
LHV = 35 MJ/nm³ (940 Btu/scf)

Optimum power turbine speed

AC-driven accessories

Engine efficiency: 24.5%

Available Power



Package Dimensions*

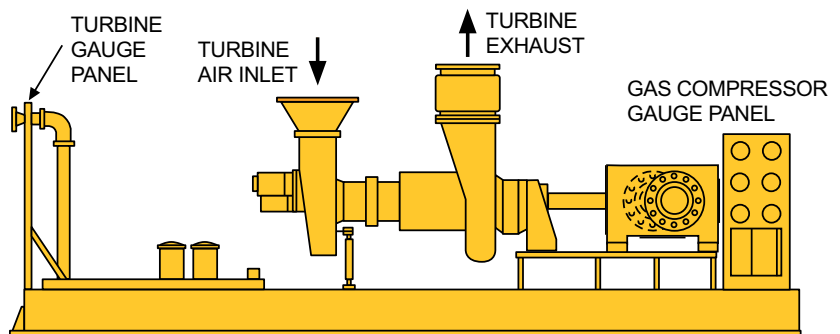
Length: 4.7 m (15' 4")

Width: 1.9 m (6' 1")

Height: 2.0 m (6' 8")

Typical Weight: 6805 kg (15,000 lb)

*Driver package only, dry weight,
unenclosed height



DS20CS-003M